

WHAT IS CLAIMED IS:

SUB A
1. An apparatus for the repair of a cardiovascular valve having leaflets comprising a grasper capable of grabbing and coapting the leaflets of the valve.

5 2. The apparatus of Claim 1, where the valve to be repaired is a cardiac valve.

3. The apparatus of Claim 2, where the valve to be repaired is a mitral heart valve.

10 4. The apparatus of Claim 3, where the patient suffers from mitral regurgitation.

5. The apparatus of Claim 2, where the valve to be repaired is an aortic valve.

6. The apparatus of Claim 5, wherein the patient suffers from aortic insufficiency.

15 7. The apparatus of Claim 1, which comprises a coaptor to coapt the valve leaflets with a fastener.

8. The apparatus of Claim 1, wherein the grasper has a distal end comprising a multiplicity of jaws which are freely movable about a joint to permit a range of motion of said 20 jaws when the apparatus is manipulated by an operator.

9. The apparatus of Claim 1, wherein the grasper end is removable from the apparatus.

10. The apparatus of Claim 9, wherein the grasper distal end is disposable.

25 11. The apparatus of Claim 7, wherein the coaptor is adjunctive to, and capable of operating in concert with, the grasper distal end.

12. The apparatus of Claim 7, wherein the coaptor is separate from the grasper distal end.

13. The apparatus of Claim 1 which can be inserted percutaneously.

14. The apparatus of Claim 1, wherein the grasper is capable of adjusting the leaflets of the valve to obtain 5 optimal coaptation.

15. The apparatus of Claim 8, wherein the jaws of the grasper can be independently manipulated to ensure optimal valve leaflet apposition.

16. An apparatus for the repair of a cardiovascular 10 valve, comprising a grasper having two jaws each having a closure member removably attached thereto wherein each closure member has a proximal end and the grasper also comprises a positioning member that is capable of positioning a binding member around the closure member proximal ends to 15 secure the closure members together to coapt leaflets of the cardiovascular valve

17. A method of repairing a heart valve in a patient suffering from regurgitation or insufficiency wherein an apparatus of Claim 1 is inserted into a patient's heart, the 20 grasper is used to grasp and immobilize the leaflets of the valve, and a fastener is inserted to coapt the leaflets.

18. The method of Claim 17, wherein the apparatus is inserted into the heart through the chest via a thoroscope.

19. The method of Claim 17, wherein the apparatus is 25 inserted through the jugular vein.

20. The method of Claim 17, wherein the apparatus is inserted through the femoral artery and advanced percutaneously.

21. The method of Claim 17, wherein the heart valve is 30 a mitral valve or an aortic valve.

22. The method of Claim 21, wherein the heart valve is

a mitral valve.

23. The method of Claim 21, wherein the heart valve is an aortic valve.

24. The method of Claim 17 for repairing a mitral valve in a patient suffering from mitral valve regurgitation wherein the leaflets of the mitral valve are grasped and immobilized by jaws of the grasper and a fastener is inserted into the immobilized mitral valve leaflets to coapt the leaflets.

10 25. The method of Claim 17 for repairing an aortic valve in a patient suffering from aortic valve insufficiency wherein the leaflets of the aortic valve are grasped and immobilized by jaws of the grasper and a fastener is inserted into the immobilized aortic valve leaflets to coapt the leaflets.

15 26. A method of repairing a heart valve in a patient suffering from regurgitation or insufficiency comprising:

inserting an apparatus of Claim 1 into a patient's heart;

grasping the leaflets of the heart valve;

immobilizing said leaflets of the heart valve;

inserting a fastener into the patient's heart in proximity to the grasped valve leaflets;

coapting the leaflets of the said heart valve

25 together by affixing the fastener; and

removing the grasper while leaving the fastener in place.

27. The method of Claim 26, wherein the patient suffers from mitral regurgitation and a mitral valve is repaired.

30 28. The method of Claim 26, wherein the patient suffers from aortic insufficiency and an aortic valve is repaired.